Patent claims

1. Method for generating process heat and/or electrical energy for a machine (20) for the production and/or finishing of a fibrous web, particularly a paper web or paperboard web,
characterized in that
gas having a highest possible proportion of hydrogen is generated from the waste products resulting during the production and/or finishing of the fibrous web, and this hydrogen-rich gas is used for generating the necessary process heat and/or the necessary electrical energy.

2. Method according to claim 1,
characterized in that
bark, fibers, edge cuttings and/or the like are used as waste products.

3. Method according to claim 1 or 2,
characterized in that
the waste products used are first transformed into methanol and/or a DMFC (Direct Methanol Fuel Cell) is used.

4. Method according to one of the preceding claims,
characterized in that
the waste products used are first fed to a reformer (10).

5. Method according to claim 4,
c h a r a c t e r i z e d in that
hydrogen carbons of the waste products used are transformed into a hydrogen-rich and a carbon monoxide-rich gas by means of the reformer (10) through autothermic reforming.

6. Method according to claim 4,
c h a r a c t e r i z e d in that
hydrogen carbons of the waste products used are transformed into a hydrogen-rich and a carbon monoxide-rich gas by means of the reformer (10) through partial oxidation.

7. Method according to claim 4,
c h a r a c t e r i z e d in that
hydrogen carbons of the waste products used are transformed into a hydrogen-rich and a carbon monoxide-rich gas by means of the reformer (10) through vapor reforming.

8. Method according to one of the claims 4 to 7,
c h a r a c t e r i z e d in that
the reformer (10) is followed by a shift stage (12) for transforming carbon monoxide into another hydrogen-rich gas.

9. Method according to one of the claims 4 to 8,
c h a r a c t e r i z e d in that
the reformer (10) or the shift stage (12) is followed by at least one more process stage (14, 16) for the further reduction of carbon monoxide.

10. Method according to claim 9,
c h a r a c t e r i z e d in that
the reformer (10) is followed by a shift stage (14) for pressure swing adsorption as a further process stage.

11. Method according to claim 9 or 10,
c h a r a c t e r i z e d in that
the reformer (10) is followed by a shift stage (16) for selective oxidation as a further process stage.

12. Method according to one of the preceding claims,
c h a r a c t e r i z e d in that
should the waste products resulting during the production and/or finishing of the fibrous web not be sufficient to meet the energy requirement, additional hydrogen carbons and/or additional H_2 are fed to the reformer (10).

13. Method according to claim12,
c h a r a c t e r i z e d in that
the additional hydrogen carbons are supplied to the reformer 10 in the form of natural gas, biomass, wood chips and/or the like.

14. Method according to one of the preceding claims,
c h a r a c t e r i z e d in that
the process heat and/or electrical energy is generated in each case at that point of the machine (20) at which it is required.

15. Method according to claim 14,
c h a r a c t e r i z e d in that
the process heat and/or the electrical energy is generated in each

case on, in or near the particular unit of the machine (20) which is to be heated or supplied with electrical energy.

16. Method according to one of the preceding claims,
c h a r a c t e r I z e d in that
the process heat and/or electrical energy is generated by means of at least one fuel cell (18) from the acquired hydrogen-rich gas and/or from additional hydrogen taken from a grid or tank for example.

17. Method according to one of the preceding claims,
c h a r a c t e r i z e d in that
the process heat is generated by preferably combusting the acquired hydrogen or methanol and/or additional hydrogen taken from a grid or tank for example.